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In Shape for the RoHS Transition!

At SMT/HYBRID/PACKAGING 2006 from May 30th through June 1st, 2006, in Nuremberg, Germany, ELEKTRONIKPRAXIS and Mesago are – for the third time – organizing the "Lead-free Service Point": This presentation and communication platform focuses on the technological and logistical challenges presented by the transition to RoHS compliance. Our partner for planning the specialized lectures and discussions is the BFE "expert group for lead-free electronics assemblies" under the leadership of Dr.-Ing. Gundolf Reichelt.

Europe's electronics industry is currently crossing the most significant dividing line in its history. Transitioning to RoHS compliance requires a restructuring of many interdependent processes within a company and throughout the entire supply chain.
For those seeking to remain competitive in Europe and on the global market of the future, there is no way around the transition to RoHS compliance. While it is true that the exceptions that are being made for products used in automation, measurement technology and medical device technology are giving manufacturers some room to breathe, these exception by no means provide a safe place for companies to relax. There are three main reasons why this is the case:
Firstly: The EU commission will be regularly examining the exceptions and discontinuing them as necessary.
Secondly: In the future, various non-compliant components will either no longer be available or will soon be more difficult to procure, or will only be available at a higher price.
Thirdly: The first RoHS-compliant products enjoy a stronger marketing effect.
From a technical and logistical perspective, transitioning to RoHS-compliant processes and products is a mammoth task. These matters are further complicated by the fact that a complete transition from the products that are currently in use to RoHS-compliant products will only be possible in rare cases. Instead, for a while, components and production steps involving lead with be running in parallel with those that conform to the RoHS directive, and manufactures must carefully maintain the distinction between these different types of operations.

This complex theme forms the focus of the Lead-free Service Point at SMT/HYBRID/PACKAGING 2006. The Lead-free Service Point is the presentation and communication platform for the transition to RoHS compliance, and it covers technology, materials management and logistics – in a practical and systematic manner.
Companies take advantage of this platform to present themselves and showcase their products, services and solutions for lead-free technology: suppliers of soldering materials and soldering

equipment, assembly manufacturers and EMS (electronic manufacturing service) providers as well as PCB manufacturers and component distributors.
Furthermore, on all three days of the trade show, experts from the industry and from the BFE Expert Group will be speaking on the requirements for the soldering equipment and materials as well as for PCBs and PCB design, and they will be reporting on the experience that they have gained in the transitioning of production and materials management. They will also be providing recommendations for product development.
Following the lectures, there will be an opportunity to exchange opinions with the speakers and with experts from the BFE Expert Group.
The program gives equal attention to the needs of electronics developers and PCB designers, technology specialists, purchasing agents and decision makers.

The BFE Expert Group

The BFE Expert Group (Fachkreis „Bleifreie Elektronik-Baugruppen“), which was founded in early 2000, is now an association of nearly 50 companies from the industry along with specialized institutions. The organization's primary mission is to work together to master the complex task of "developing and manufacturing RoHS-compliant electronics products."
The goal of our BFE Expert Group has been and continues to be to make it easier for its member companies and organizations to introduce RoHS-compliant technologies in their companies by providing mutual support.

"Lead-free" Trade Show Guide

The "Lead-free" Trade Show Guide helps you plan your rounds at the event.
A special logo marks all exhibitors that offer hardware and software for electronics production, soldering equipment and materials, as well as components and PCBs, and it leads trade show visitors to specialists for the production and development of electronic assemblies.

RoHS-compliant instead of lead-free

The term “lead-free component” is incorrect and misleading. The hazardous substance directive (RoHS) restricts six substances, but it allows minimal concentrations of these substances: 0.1 % by weight for lead, hexavalent chrome and mercury as well as polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE) and 0.01 % by weight for cadmium with regard to the homogenous material (a unit that cannot be mechanically separated into single materials).
An IC package contains at least six homogenous materials: the lead frame, the coating of the lead frame, the die, the die attach, the bond wire and the housing.
Nevertheless, RoHS-conformity alone is insufficient. The second crucial criterion is the component’s set of processing parameters: the soldering temperature and moisture sensitivity

level (MSL). The melting temperature for lead-free soldering alloys is higher than for tin/lead solders (183 to 210 °C); the tin/silver/copper solder that is favored for reflow soldering processes does not melt until it reaches 221 to 227 °C. For this reason, RoHS-compliant components must achieve greater temperature resistance than conventional components do. Additionally, the requirements for the processing and storage of moisture-sensitive components become more stringent due to the higher process temperature.